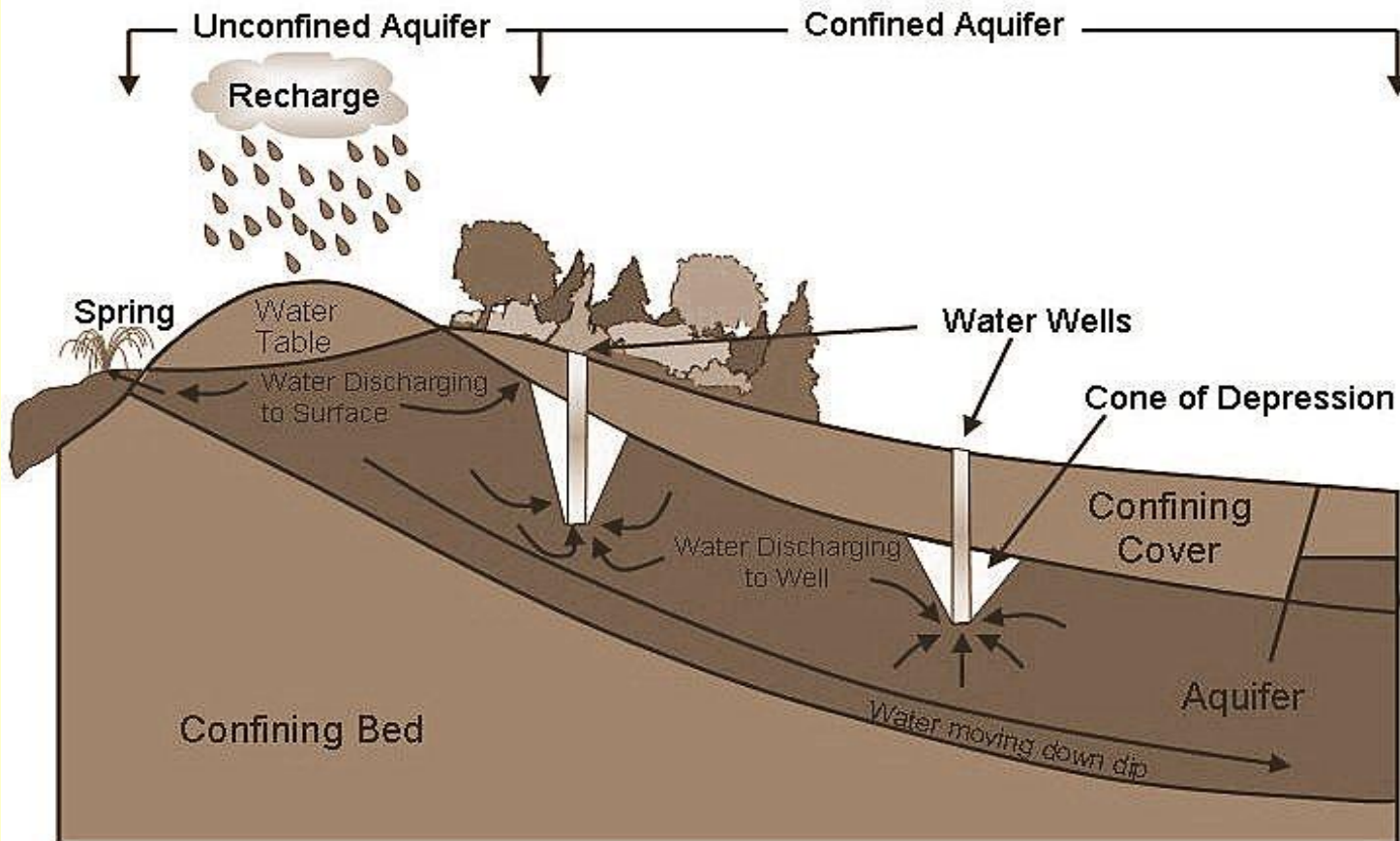


Water Quality Protection

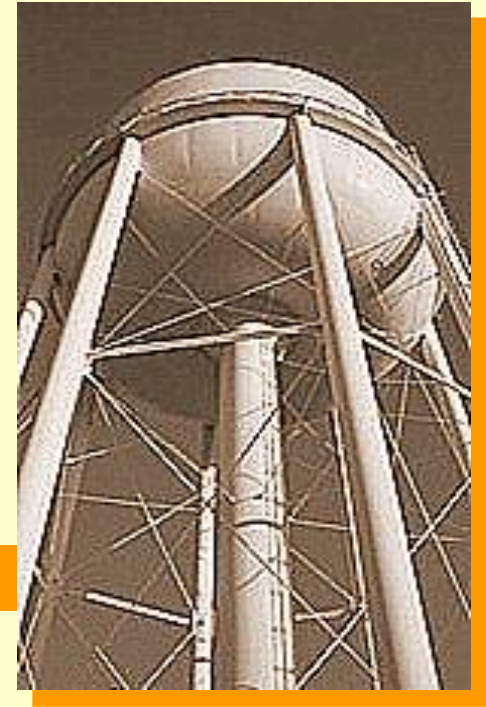
Sole Source Aquifers [Section 58.5 (d)]



**“Water, water everywhere,
nor any drop to drink...”**

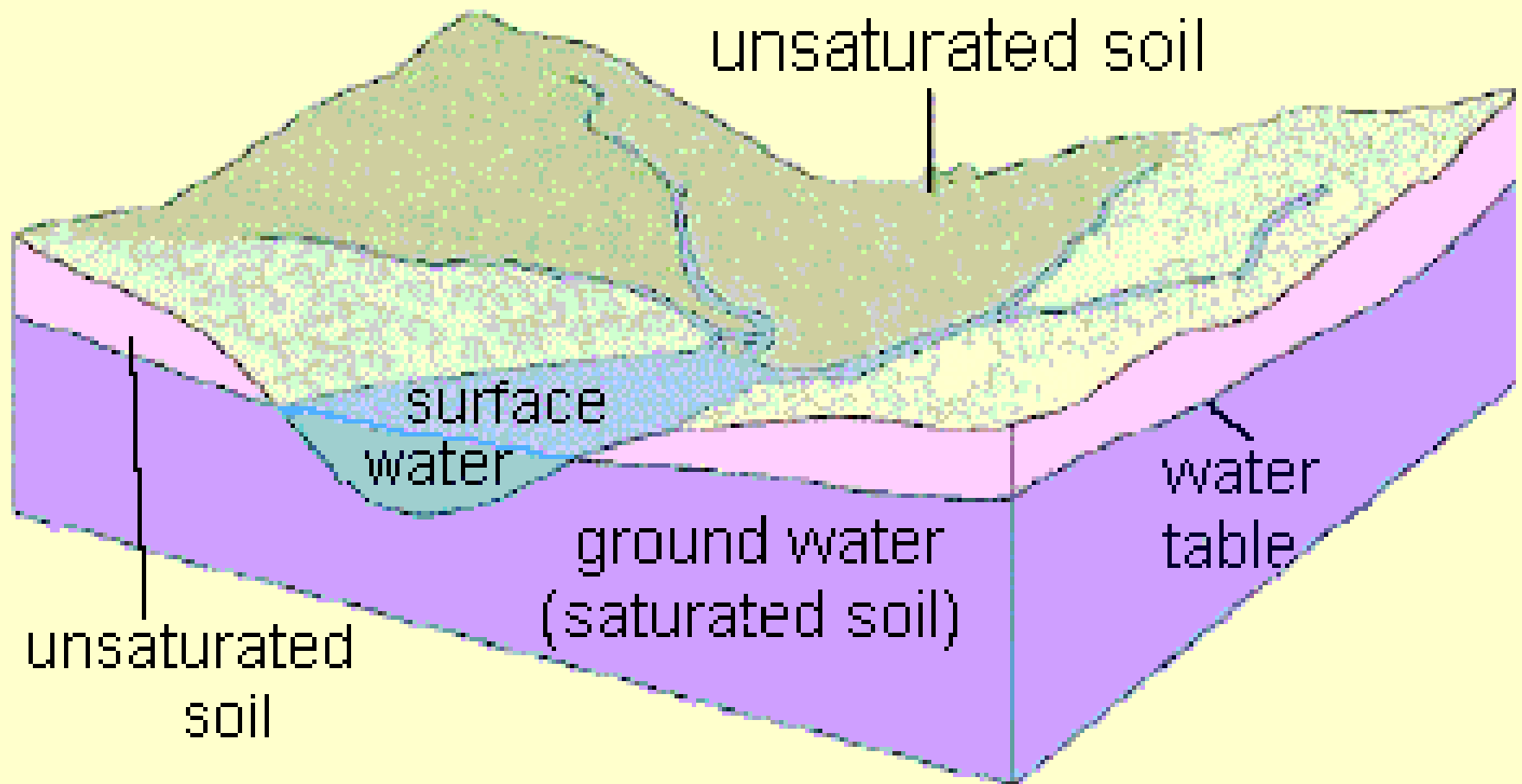
***Training
Topics:***

- **Overview: Sources of Water**
- **Threats to Source Water**
- **Historical Background - Safe Drinking Water Act (SDWA)**
- **Sole Source Aquifers (SSA) & general responsibilities**
- **SSAs located within HUD Region VI**
- **Environmental review procedures**



Sources of Water

Drinking water is either ground water or surface water

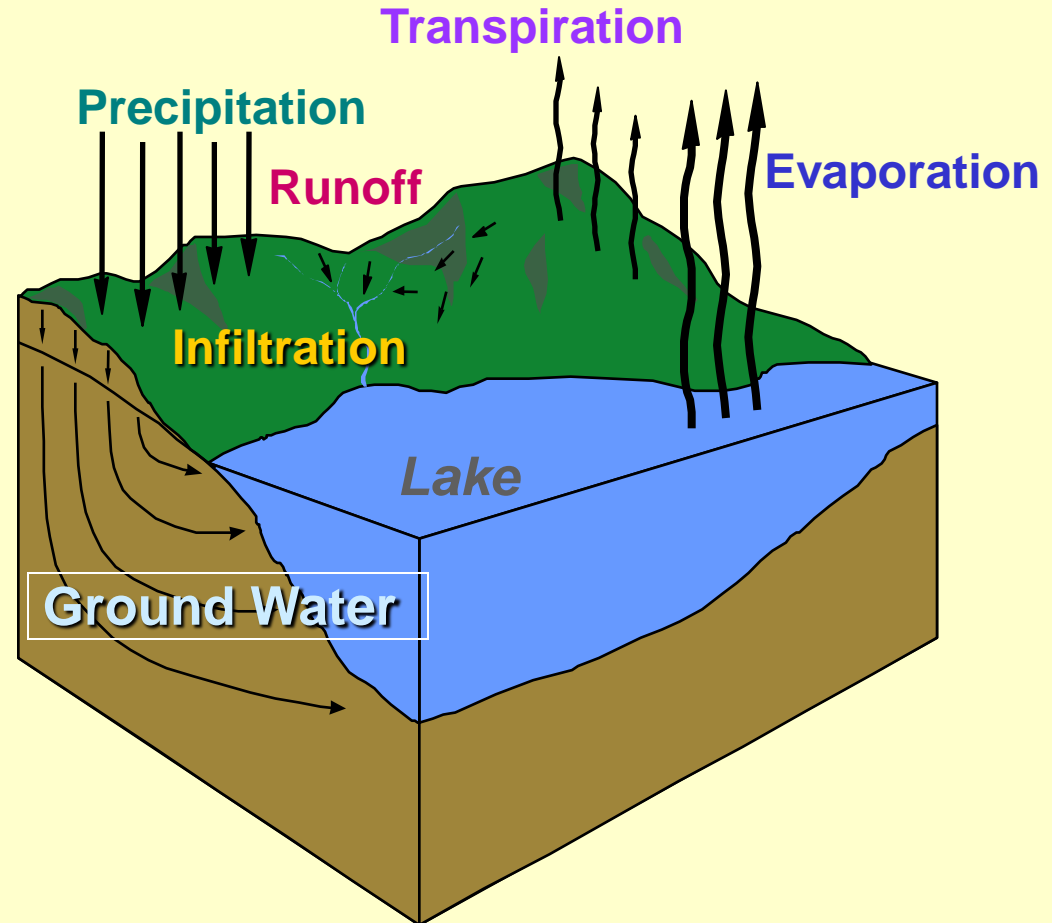


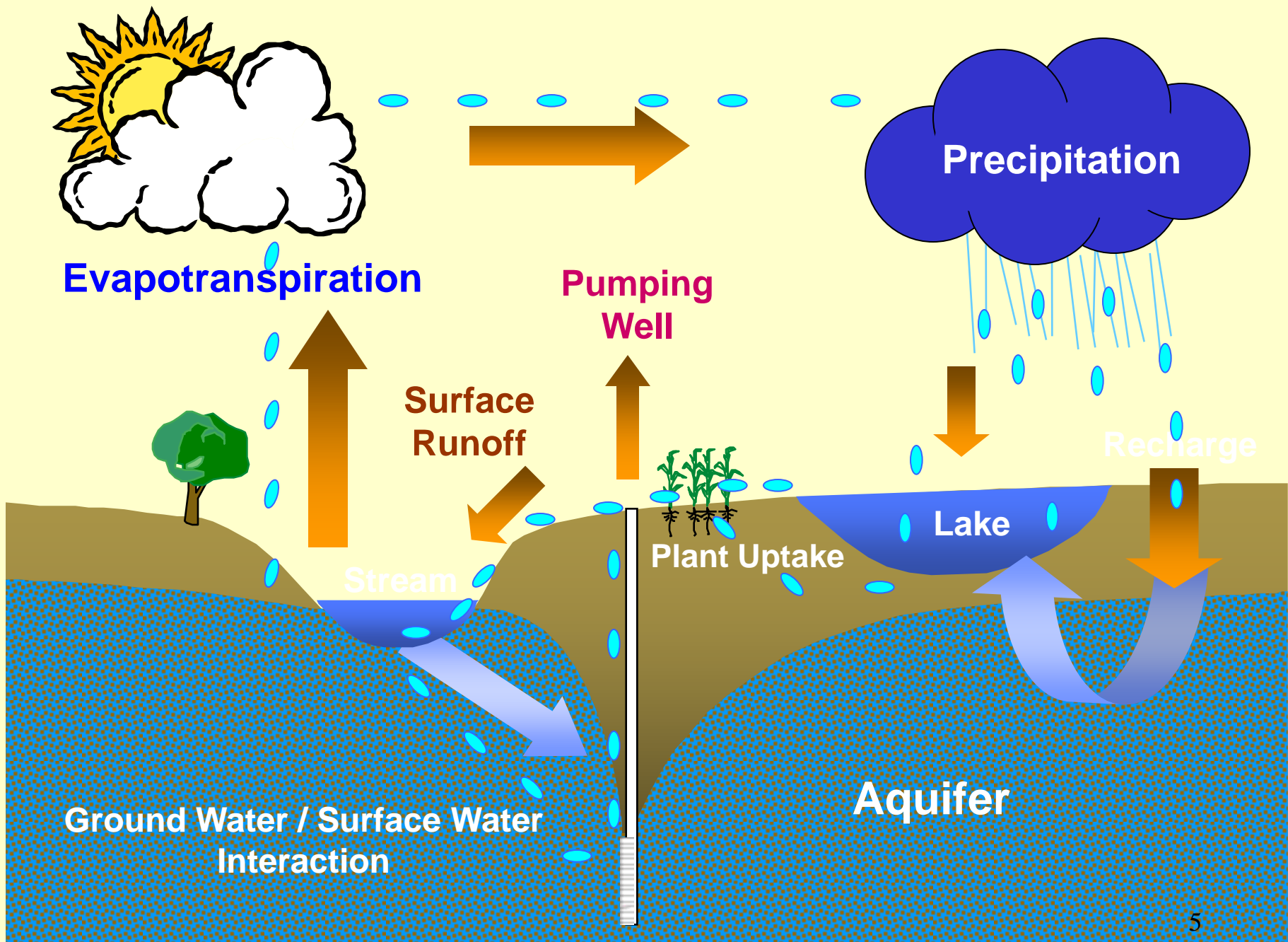
Sources of Water

Water on earth is finite...Used over and over again...

❑ The water cycle, or **hydrologic cycle**, is the continuous movement of water from ocean to air and land then back to the ocean in a cyclic pattern

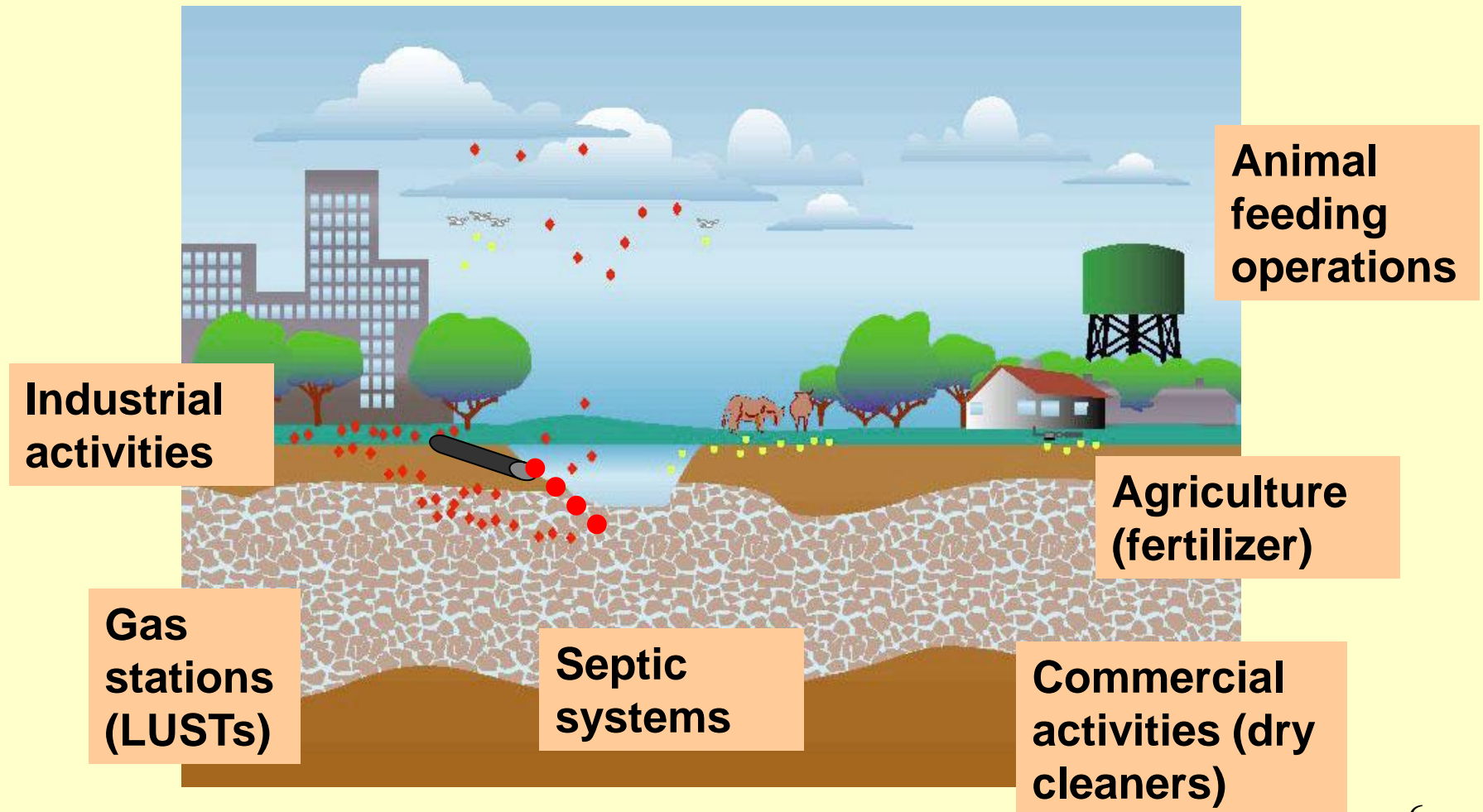
❑ The inter-relationship between ground water and surface water means that **contamination** can migrate between the two





Threats to Sources of Drinking Water

Sources of Contamination...

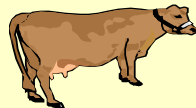


Threats to Source Water

Sources of Contamination...

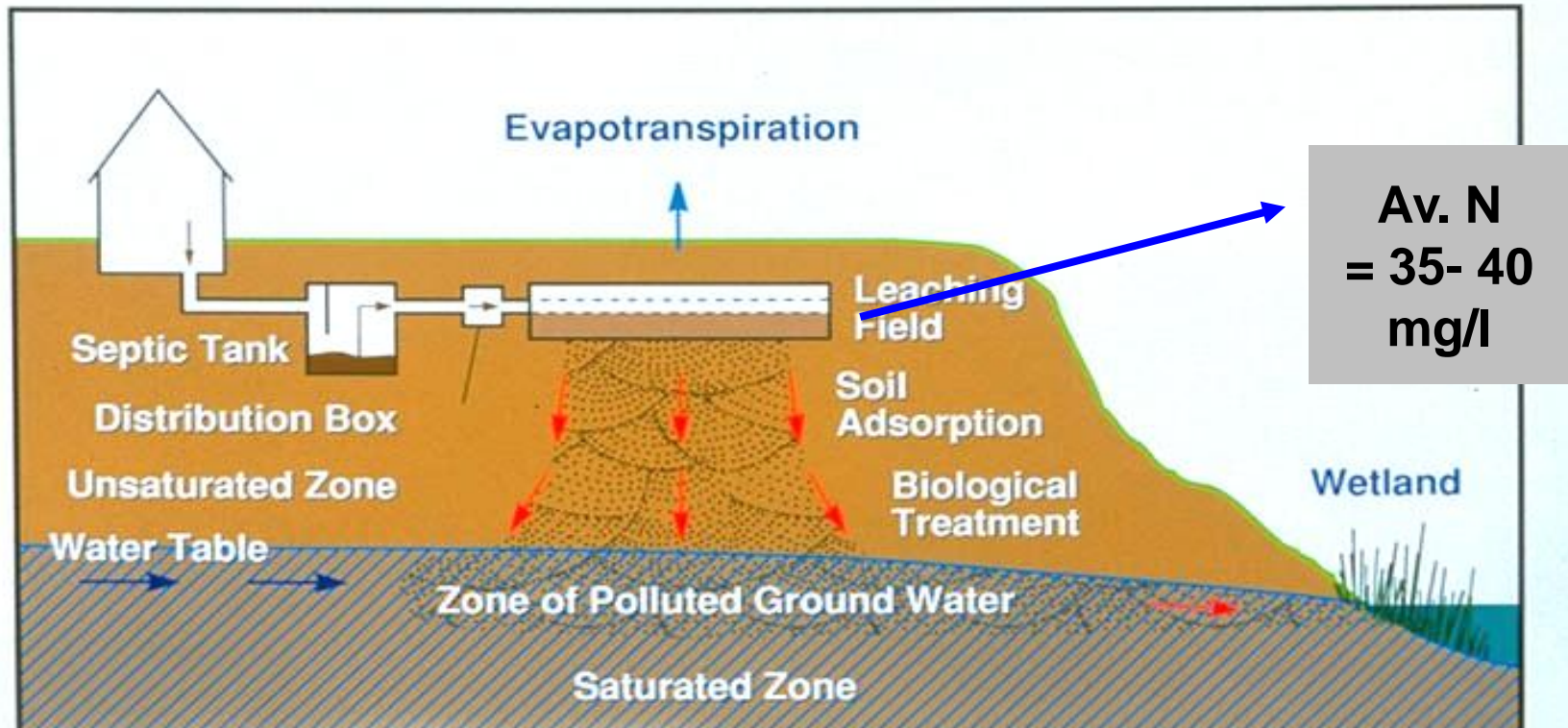


- ❑ Health impacts can be acute (immediate) or chronic (long-term). Contaminants include:
 - Pathogens - bacteria, viruses, parasites
 - Volatile organic compounds (VOCs) – solvents, such as benzene, toluene
 - Inorganic chemicals – metals and minerals, such as lead
 - Synthetic organic chemicals – pesticides, such as atrazine



Threats to Source Water

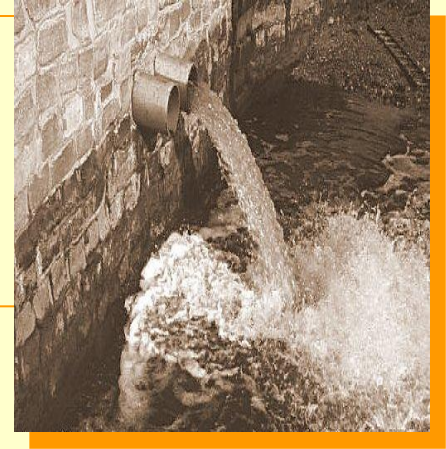
Example: Septic Systems and Nitrogen and Viral Loading



Septic Systems Do Not Treat Wastewater

Historical & Legislative Background

Congress enacted a single federal statute to implement oversight of **community water systems**

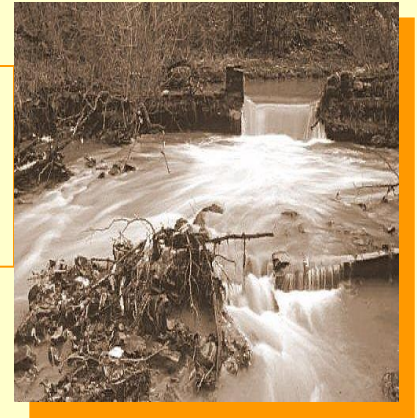


Safe Drinking Water Act (SDWA) of 1974 (P.L. 93-523)

- ❑ Nationwide study of community water systems revealed widespread water quality and health risk problems resulting from poor operating procedures, inadequate facilities, and poor management of public water supplies in communities of all sizes
- ❑ Congress responded with the Safe Drinking Water Act (SDWA), Title XIV of the Public Health Service Act
- ❑ SDWA is the key federal law for protecting public water systems from harmful contaminants

What is Sole Source Aquifer?

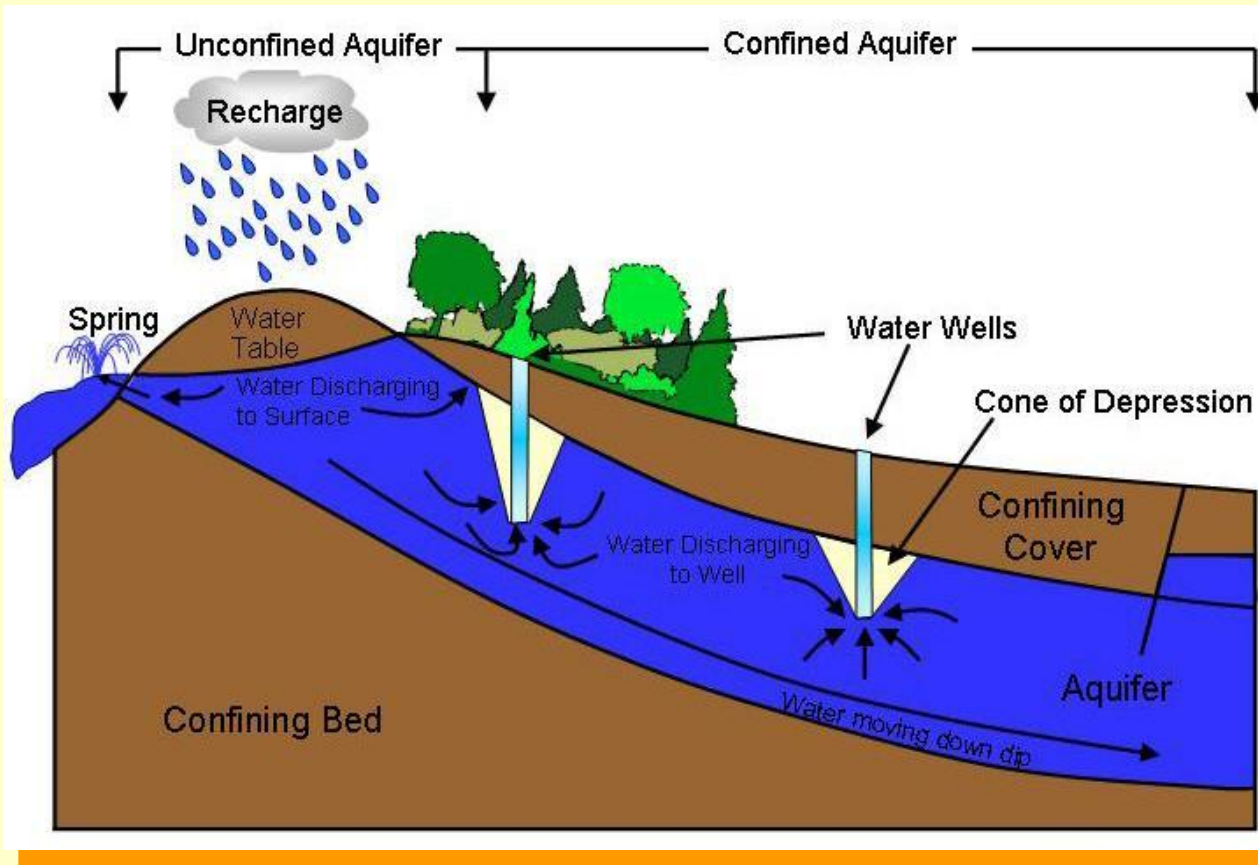
SDWA implemented a strategy for protecting Sole Source Aquifers (SSAs)



- ❑ A **Sole Source Aquifer** supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer
- ❑ No physically, legally, and economically-available alternative for drinking water source exists
- ❑ Federal assistance **prohibited** for projects that might contaminate an aquifer designated as SSA
- ❑ SSA protection program authorized by Section 1424 of the SDWA

What is Sole Source Aquifer?

A single, confined aquifer serving a community..



□ And the primary or only source of drinking water for that community

Aquifer = a geologic formation that contains water in quantities sufficient to support a well or spring

SSA General Responsibilities

Federal and state general responsibilities...



- ❑ SSA designation protects an area's ground water resource by requiring **U.S Environmental Protection Agency (EPA) review** of any proposed project within the designated area that is receiving federal financial assistance or permitting
- ❑ Primary enforcement responsibility of the SDWA for public water systems lies with **state governments**, provided they adopt regulations as stringent as the national requirements
- ❑ All proposed projects receiving federal funds are subject to review to ensure they do not endanger the water source

SSA General Responsibilities

Federal and state general responsibilities...



- ❑ Examples of projects that require review:
 - highways
 - wastewater treatment facilities
 - construction projects that involve storm water disposal
 - public water supply wells and transmission lines
 - agricultural projects that involve management of animal waste

- ❑ Project reviews can result in EPA requirements for:
 - design improvements
 - ground water monitoring
 - maintenance and educational activities
 - coordination of ground water protection activities among State and local environmental and public health protection agencies

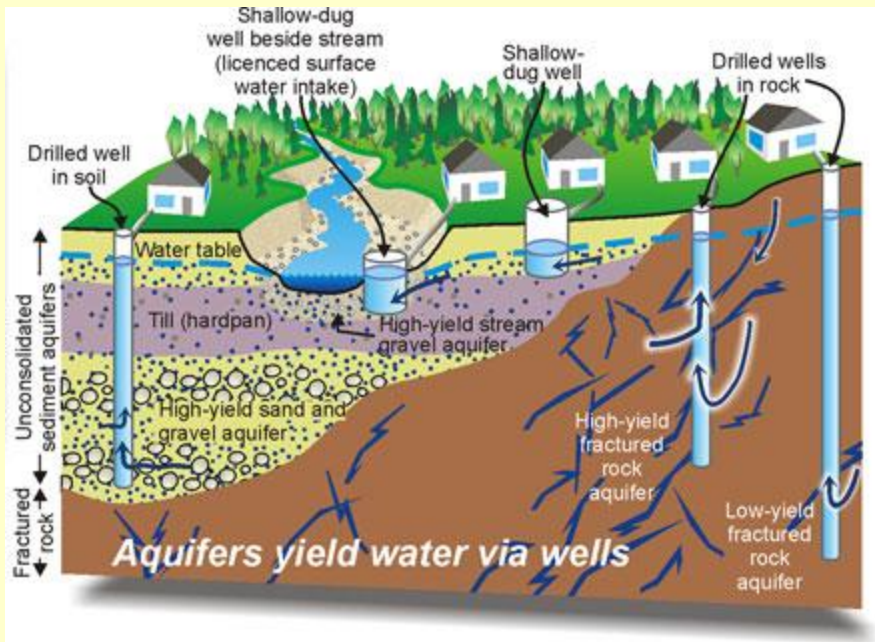
Environmental Review Procedures

HUD-funded activities that might contaminate an EPA-designated SSA are prohibited under SDWA

- ❑ Environmental reviews must evaluate potential impacts to SSAs designated by the EPA
- ❑ Generally, compliance applies only to projects involving:
 - New construction
 - Land use conversion
 - Acquisition of undeveloped land
- ❑ Document ERR with **copy of “*Designated Sole Source Aquifers in EPA Region VI*”**
<http://www.epa.gov/region6/water/swp/ssa/maps.htm>

Environmental Review Procedures

HUD-funded activities that might contaminate an EPA-designated SSA are prohibited under the SDWA



Environmental reviews must evaluate potential impacts to SSAs designated by the EPA

This is required by a **Programmatic Agreement between the EPA and HUD**

Generally, this applies only to projects involving:

- ☐ New construction
- ☐ Land use conversion
- ☐ Acquisition of undeveloped land

Environmental Review Procedures

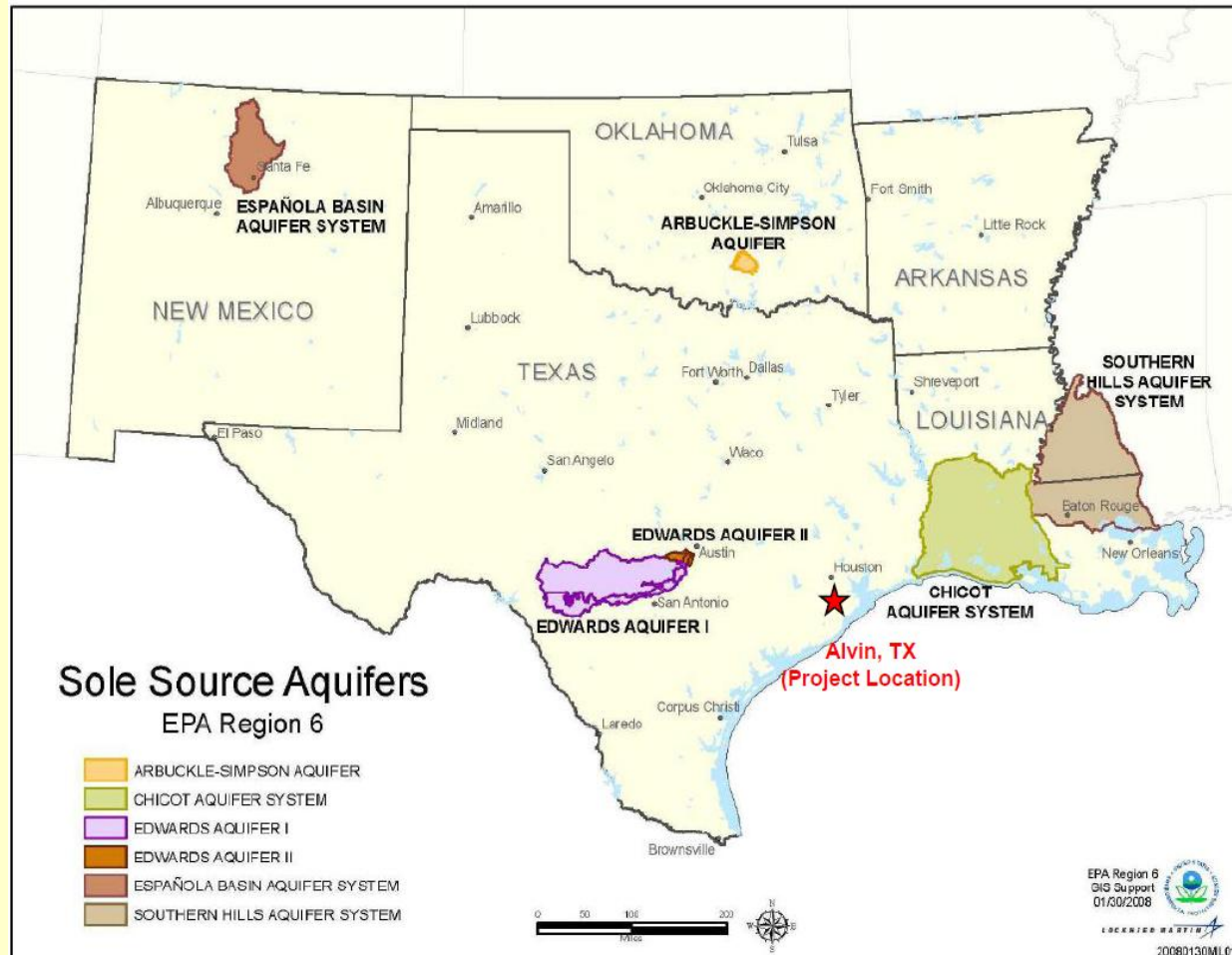
HUD-funded activities that might contaminate an EPA-designated SSA are prohibited under the SDWA

Environmental reviews must:



- ☐ Provide a written explanation that is made by a qualified data source as to the effect of the proposed project on the aquifer and the measures to ameliorate the adverse effect (if any)
- ☐ Include a copy of any comments received from the EPA and the State or local agency with jurisdiction for protecting the drinking water system, and
- ☐ Include a copy of the written responses to such comments

Example of Back-Up Documentation





THANK YOU!

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